SGIP 2.0 Business Sustainment Plan

Roadmap to the Future of Smart Grid Interoperability

The SGIP Governing Board formed the Business Sustainment Plan Working Group ("Plan") to develop a proposal for moving the SGIP forward with significantly reduced government financial support. We refer to the new organization as SGIP 2.0. This Plan describes the new organization, the scope of its activity (including continued support of NIST to carry out its EISA mandate), and the potential sources of revenue to support the new organization.

By: SGIP Governing Board - Business Sustainment Plan Working Group

6/29/2012

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a) *John McDonald*
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IV. **BSPWG Special Advisor:** Andrew Updegrove

V. **How this plan will be used:** this Business Sustainment Plan ("BSP") is expected to evolve over the course of the next 6 months based on ongoing feedback that will be collected during the SGIP 2.0 membership campaign. The BSP will also be periodically updated as greater clarity is achieved on forecast 2013 revenue and expense levels during the implementation phase of the transition. The BSPWG recommends this version of the BSP to the SGIP Governing Board as the Plan on which to launch implementation, including, but not limited to: initiate the SGIP 2.0 membership recruitment campaign, commence the solicitation of grants and sponsorships, and construct a prioritized expense budget (perhaps with the assistance of an independent third party), and continue work on the "ITEMS THAT REQUIRE FURTHER DEVELOPMENT AND CONSIDERATION" listed throughout this BSP. While the amount of change is expected to decline over time, the SGIP 2.0 leadership will be committed to both define and deliver ongoing value to its members while matching its level of effort with available resources (i.e. a balanced budget). As choices or tradeoffs need to be made as more information is obtained, SGIP 2.0 leadership should consider the following as key priorities in decision making:

a) work that needs to be done to achieve the SGIP 2.0 mission in the most efficient and effective manner
b) maintain continued support of NIST
c) create and deliver a compelling value propositions for
    i. membership to join and pay annual dues
    ii. grants from foundations & endowments whose missions and objectives are consistent with some or all aspects of the SGIP 2.0
    iii. secure sponsorships for certain administrative expenses (e.g. expenses related to face-to-face meetings).
d) maintain most of the values, culture and overall feel of SGIP 1.0

SGIP 2.0 Business Sustainment Plan

1) History

Under the Energy Independence and Security Act of 2007 (EISA), the National Institute of Standards and Technology (NIST) is assigned the "primary responsibility to coordinate development of a framework that includes protocols and model standards for information management to achieve interoperability of Smart Grid devices and systems…" [EISA Title XIII, Section 1305]. EISA, which designates development of a Smart Grid as a national policy goal, specifies that the interoperability framework should be "flexible, uniform, and technology neutral." The law also instructs that the framework should accommodate "traditional, centralized generation and distribution resources" while also facilitating incorporation of new, innovative Smart Grid technologies, such as distributed renewable energy resources and energy storage.

No appropriation of funds was provided, and NIST co-hosted the November 2008 Grid-Interop meeting with the Gridwise Architecture Council in order to begin the identification of stakeholders in the Smart Grid community. Five workshops were held in the areas of Home-to-Grid (H2G), Building-to-Grid (B2G), Industry-to-Grid (I2G), Transmission & Distribution (T&D) and Business & Policy (B&P) in order to generate dialogue among existing stakeholders to identify key interoperability standards activities required in order to make the smart grid a reality. From these workshops, the respective Domain Expert Working Groups (DEWGs) were formed.

In February of 2009, the American Recovery and Reinvestment Act of 2009 (ARRA) was enacted, which provided funding to NIST to carry out its EISA mandate. ARRA included $4.4 Billion in stimulus funding for smart grid investment and demonstration projects.

Recognizing the urgency, NIST developed a three-phase plan for moving forward. In the ***first phase***, NIST retained the services of the Electric Power Research Institute (EPRI) to facilitate three public workshops, in April, May and August 2009, in which more than 1,500 individuals representing hundreds of organizations participated. NIST also consulted with stakeholders through extensive outreach efforts carried out by the Office of the National Coordinator for Smart Grid Interoperability. In May 2009, U.S. Secretary of Commerce Gary Locke and U.S. Secretary of Energy Steven Chu chaired a meeting of nearly 70 executives from the power, information technology, and other industries at which these executives expressed their organizations' commitment to support the plan established by NIST to meet its EISA responsibility. The effort culminated in the *NIST Framework and Roadmap for Smart Grid Interoperability Standards, Release 1.0*. It describes a high-level conceptual reference model for the Smart Grid, identifies 75 existing standards that are applicable (or likely to be applicable) to the ongoing

development of the Smart Grid, specifies 16 high-priority gaps and harmonization issues (in addition to cyber security) for which new or revised standards and requirements are needed, documents action plans with aggressive timelines by which designated standards-setting organizations (SSOs) will address these gaps, and describes the strategy to establish requirements and standards to help ensure Smart Grid cyber security.

The ***second phase*** of the NIST plan was formally launched in November 2009. It involved an ongoing organization and consensus process that was formalized under the Smart Grid Interoperability Panel (SGIP). The SGIP is a public-private partnership that provides an organizational structure to support the continuing evolution of the framework. By mid-December 2009, one month after it was established, the SGIP membership exceeded 400 organizations divided among 22 stakeholder categories, and today more than 700 organizations are members of the SGIP, which we will refer to as SGIP 1.0. The ***third, and final, phase*** of the NIST plan was to develop a plan for testing and certification to ensure that Smart Grid equipment and systems conform to standards for security and interoperability.

NIST realizes this is a long-term effort and envisions the transition of the SGIP from a public-private partnership to a self-financed, legal entity that retains a working partnership with government. The SGIP Governing Board formed the Business Sustainment Plan Working Group to develop a proposal for moving the SGIP forward as a self-sustaining organization, which we will refer to as SGIP 2.0. This proposal describes the new organization, how it will continue to assist NIST to carry out its EISA mandate, and how it will advance interoperability to enable Smart Grid deployments worldwide.

2) SGIP 1.0 (2009-2012)

a) Examples of accomplishments

After being formed at the Grid-Interop meeting in December, 2009, the SGIP matured into a fully functional organization with many activities moving forward in parallel, supported by operational processes and a management structure. Some of the highlights of the past 3 years are included below.

i) The SGIP continues to identify and address standards gaps through a priority action plan (PAP) process that speeds the pace of standards development. Since its creation, the SGIP has supported 20 PAPs. One priority issue, SEP 1.x to SEP 2.0 Transition and Coexistence, was identified as a critical problem that the SGIP Governing Board determined should be addressed through the PAP process. The resulting work guides implementers with a migration or coexistence path between SEP 1.x and SEP 2.0. The work was completed in just 6 months.

ii) The establishment of the Catalog of Standards (CoS) was a major accomplishment for the SGIP. The CoS will provide a compendium of standards and guides that are relevant to advancing interoperability in Smart Grid deployments. The CoS is being populated by the results of the PAP

activities as well as material from the reviews of existing relevant Smart Grid standards that characterize the entries for practitioners, integrators, and other interested parties.

iii) The SGIP's PMO created and refined the Priority Action Plan (PAP) lifecycle process which streamlines the work of the PAP Working Groups into a common methodology and set of deliverables. Common reporting from PAPs allows problems to be caught early and resources to be assigned to manage them. The PMO oversees all SGIP project activities and provides the project discipline and commonality that keep project members focused on the work that needs to be done, and the process to bring entries into the CoS.

iv) In July, 2011, the Federal Energy Regulatory Commission (FERC) endorsed NIST and the SGIP process stating:

> "We believe that the best vehicle for developing smart grid interoperability standards is the NIST interoperability framework process, including the work of the SGIP and its committees and working groups. This work includes harmonization and extensions of existing smart grid interoperability standards as well as the development of new standards. The SGIP brings together smart grid stakeholders from numerous industries and areas of expertise to guide the development of smart grid interoperability standards within the context of the NIST interoperability framework process."

v) The SGIP standing committees have set the groundwork for the coordination of issues that cross-cut the PAPs and the smart grid stakeholder domains. The Architecture Committee (SGAC) has refined reference architecture, and developed a conceptual model for organizing smart grid interoperability issues. The Testing and Certification Committee (SGTCC) has set the foundation for interoperability testing. This includes an Interoperability Process Reference Manual that brings together the best practices for achieving standards-based, interoperable and conformant Smart Grid technologies. The Cyber Security Working Group (CSWG) developed NISTIR 7628, which presents an analytical framework that organizations can use to develop effective cyber security strategies tailored to their particular combinations of Smart Grid-related characteristics, risks, and vulnerabilities.

vi) In March 2012, SGIP initiated a new standing committee entitled the "Smart Grid Implementation Methods Committee" (SGIMC). The SGIMC was created to assist and engage implementers with the deployment of standards-based Smart grid technologies, systems and infrastructures. The SGIMC also provides objective impact analysis of standards and promotes positive transition management.

vii) As part of the SGIP's flexible architecture and evolutionary philosophy, we have established several working groups to address specific Smart Grid interoperability challenges.

(1) The SGIP started with six domain expert working groups (DEWGs): Home to Grid, Building to Grid, Industrial to Grid, Transmission and Distribution, Vehicle to Grid, and Business and Policy. Over the last two years, a Distributed Renewables, Generators, and Storage group was formed in addition to the Electromagnetic Interoperability Issues working group. These groups have developed whitepapers and spawned PAPs, on such topics as wind integration, an energy services interface, and the integration of home appliances.

(2) Green Button – introduced as a challenge by former United States CTO, Aneesh Chopra. SGIP stakeholders took the concept to reality in 5 months. The idea leverages work originally performed in PAP 10, allowing the challenge to be met through implementation of the NAESB Energy Usage Information and ESPI Standard. The idea is already being embraced and utilized by numerous utilities nation-wide and developers are continuing to explore innovative products and services around it, creating jobs and new markets and also enabling consumers to better understand their energy usage and subsequently manage it in a more efficient way. All this was enabled by the platform of interoperability constructed by the SGIP.

viii) Since inception the following have been achieved:

(1) 28 standards to better facilitate interoperability due to SGIP activity have been added to Catalog of Standards in 12 months from 9 different SSOs

(2) 72 standards reviews completed by the Cyber Security Working Group

(3) 41 standards reviews completed by the Smart Grid Architecture Committee

(4) 20 PAPs initiated; 7 PAPs completed and PAP teams retired

(5) 7 international Letters of Intent of Cooperation (completed or in progress)
- (a) European Union
- (b) Korea
- (c) Japan
- (d) Ecuador (in progress)
- (e) Columbia (in progress)
- (f) Turkey (in progress)
- (g) South Africa (in progress)_

b) <u>Organizational Structure</u>

i) The SGIP 1.0 is managed by NIST with day-to-day technical and operational support provided by both a contract Program Administrator and elected Plenary Officers who are volunteers.

(1) list of NIST responsibilities

(a) NIST is responsible for monitoring the SGIP Administrator contract resources and contractor performance
(b) NIST has an ex-officio position on the Governing Board, as stated in the bylaws
(c) The chair of the CSWG and the vice-chair of the SGTCC are NIST staff, as stated in the Bylaws
(d) NIST has a representative on the SGIP Plenary Leadership team and on the SGIP PMO, and on the CMEWG.
(e) In most cases, NIST provides lead facilitators for PAP working groups and DEWGs.
(f) NIST reviews all LOIs with other organizations
(g) NIST reviews all marketing and public affairs documents prior to their release
(h) NIST provides the NIST Smart Grid Collaboration Wiki for use by the SGIP and the public.

(2) list of Program Administrator responsibilities
(a) Planning, logistics and support of SGIP Face-to-Face ("F2F") meetings
(b) Planning, logistics and support of SGIP Governing Board Face-to-Face ("F2F") meetings including identification and development of the GB review package
(c) Planning, logistics and support of SGIP Voting
(d) Planning, logistics and support of SGIP membership services
(e) Enforce Bylaws and Operating procedures
(f) Develop, support and maintain web sites, including the collaborative Twiki and list servers for SGIP membership
(g) Establishes and maintains email list serves for the various groups within the SGIP
(h) Provide administrative support to NIST as required
(i) Facilitate committee and working group operations
(j) Identifies, coordinates and manages technical expert resources (Technical Champions) to support PAPs and other directed activities.
(k) Supports communications and marketing (booths, training material, announcements, handouts, coordination with CME WG).
(l) Provides program management and coordinates monthly reporting of all SGIP working groups and activities.

(3) Plenary officers operational oversight
(a) Plans for plenary events and communications
(b) Reviews PAP and WG requests
(c) Helps package material for GB review and approval
(d) Coordinates leadership of committees and working groups
(e) Resolves membership issues
(f) Proposes and enacts operational changes (e.g., CoS, document branding, new WG and committees)

(4) SGIP 1.0 receives the full benefits of being federally sponsored while being subject to federal regulations and guidelines

ii) A Governing Board has been established with certain responsibilities and authority

(1) The SGIP is guided by a Governing Board that approves and prioritizes work programs. The Governing Board's responsibilities include facilitating a dialogue with standards development organizations to ensure that the action plans can be implemented. The SGIPGB provides guidance to the SGIP. This guidance includes a broad perspective of the NIST Interoperability Framework and Roadmap vision. The Administrator-led Program Management Office reports on progress through monthly SGIP reports. The Administrator ensures all SGIP documents are openly available in an online Interoperability Knowledge Base.

(2) Composition:
- (a) 22 seats elected by each of the membership categories
- (b) 3 "at large" seats elected by entire membership
- (c) 7 ex officio seats
  - (i) 1 – NIST
  - (ii) 1 – Plenary Chairperson
  - (iii) 4 - Membership Committee Chairpersons
  - (iv) 1 – Program Administrator

(3) Created four working groups or task forces
- (a) Bylaws & Operating Practices Work Group
- (b) Communication, Marketing and Education Working Group
- (c) Intellectual Property Rights Working Group
- (d) Vision, Mission and Road Map Working Group
- (e) International Task Force
- (f) Business Sustainment Plan Work Group

iii) Plenary Leadership
- (1) Chairperson – elected by the Governing Board,
- (2) Vice-Chairperson – elected by the membership
- (3) Secretary - elected by membership

iv) Membership activity organized by:

(1) Four standing committees/working groups
- (a) Smart Grid Architecture Committee
- (b) Smart Grid Testing and Certification Committee
- (c) Cyber Security Working Group
- (d) Smart Grid Implementation Methods Committee

(2) Seven Domain Expert Working Groups
- (a) Building to Grid (B2G)
- (b) Business and Policy (BnP)
- (c) Distributed Renewables, Generators and Storage (DRGs)
- (d) Home to Grid (H2G)
- (e) Transmission and Distribution (TnD)
- (f) Vehicle to Grid (V2G)

(3) Priority Action Plans

c) Charter and Bylaws – version 1.4 available on SGIP Twiki

3) SGIP 2.0 (2013 and beyond)

a) **Preamble:**

Since the formation of the SGIP in 2009, the activity of the SGIP by NIST personnel and member volunteers has been supported and enabled by the work of a Program Administrator that has been fully funded by NIST in the approximate amount of $5 to 7 million per year; a significant portion of those funds came from the ARRA program. However, NIST always intended that the SGIP would transition from a federally funded organization to a self-financed, legal entity that retains a working partnership with government.

At the December 2011 SGIP Governing Board meeting, George Arnold, National Coordinator for Smart Grid Interoperability at NIST, requested the SGIP Governing Board to begin planning for the SGIP's transition into a legal entity funded primarily by the private sector and with a continuing, but reduced level of federal funding beginning January 2013. He emphasized that NIST will continue to be actively engaged as a partner with the private sector in the work of SGIP. To assist the SGIP in the transition, NIST tasked the Program Administrator with preparation of a document that shares thoughts and options for the transition. The current form of the SGIP 1.0 is a *society of members* which has no formal legal structure, and thus lacks the ability to enter into contracts or raise revenue from any source. While this form is sufficient for SGIP 1.0 due to the sponsorship by and relationship with NIST, it is not an adequate form for SGIP 2.0.

SGIP 2.0 builds upon the foundation established by SGIP 1.0. The transition of the organization shall be sensitive to the principles and style of operations nurtured in SGIP 1.0 so that the membership will feel and experience a high degree of continuity in work processes.

b) **SGIP 2.0 Relationship with NIST –** NIST will continue to support the SGIP in the same manner as it has since inception except for the following:

i) NIST expects it will not be able to provide the same level of funding to support SGIP in the future as it has in the past; however it does expect to provide some level of financial support. The amount for 2013 will not be able to be determined until the federal budget process is completed. .

ii) NIST will no longer contract and manage the SGIP Program Administrator (see "Management" section below)

iii) ***ITEMS THAT REQUIRE FURTHER DEVELOPMENT & CONSIDERATION***

(1) It is anticipated that the relationship between NIST and SGIP 2.0 will be documented in a Letter of Intent or a Memorandum of Understanding, and MAY include such items as:

(a) An affirmative statement that NIST will continue to rely upon the SGIP 2.0 for continued support in fulfilling its EISA requirements

(b) That NIST will continue to provide a similar level of human resources to support SGIP 2.0 as experienced in SGIP 1.0 to enable, support and/or lead the activity within SGIP 2.0

(c) That NIST will acknowledge and support that SGIP 2.0 will be self-managed as outlined in this BSP, or as modified by the SGIP 2.0 membership.

(d) The SGIP 2.0 feels that NIST's continued involvement in SGIP 2.0 will add credibility, validity and an unbiased independent perspective. As such SGIP 2.0 will maintain NIST's leadership in certain areas:

(i) An <Ex officio> seat on the SGIP 2.0 Board of Directors

(ii) The Chairperson role on the SG Cyber Security Committee

(iii) The Vice-Chairperson role on the SG Testing and Certification Committee

(iv) An <Ex officio> seat on the Board Technical Committee

(v) An <Ex officio> member of the PMO

c) <u>Mission</u>

i) ***RECOMMENDATION BY BSPWG*** - keep basically the same as SGIP 1.0 but recognize that Smart Grid has evolved from a concept to something with increased definition, purpose and actual deployments have commenced.

The mission of the SGIP is to provide a strong framework for coordination of all stakeholders of the Smart Grid to accelerate standards harmonization and development and advance the interoperability of Smart Grid devices and systems.

The SGIP shall support NIST in its fulfillment of its responsibilities pursuant to the Energy Independence and Security Act of 2007 ("EISA").

The SGIP does not write standards, but instead develops and reviews use cases, identifies requirements, identifies gaps and overlaps on existing standards affecting the Smart Grid and proposes action plans for achieving coordination.

As Smart Grid deployments are implemented both domestically and globally, and as new products and services emerge that connect to and extend the Smart Grid in ways designed to benefit one or more of the many domains of the Smart Grid industry, new opportunities and challenges concerning interoperability will emerge.

The SGIP 2.0 has five principal responsibilities:

(1) To provide the technical guidance and coordination necessary to facilitate standards development for Smart Grid interoperability

(2) To identify and specify the necessary testing and certification requirements, including providing the underlying rationale, to assess the achievement of interoperability using Smart Grid Standards

(3) To oversee the performance of these activities to maintain momentum and achievement

(4) To proactively inform and educate smart grid industry stakeholders on the definition of and the benefits attributable to interoperability

(5) To conduct an outreach to similar organizations in other countries to help establish global interoperability alignment

ii) ALTERNATIVES CONSIDERED BUT NOT RECOMMENDED

(1) Slightly reduced scope in some areas
(2) Slightly expanded scope in some areas
(3) Combinations of the above two

iii) ITEMS THAT REQUIRE FURTHER DEVELOPMENT AND CONSIDERATION

(1) A plan for the global outreach should be developed and approved by the Board of Directors, including objectives, resource requirements, priorities, etc.

d) <u>Principles</u>

i) ***RECOMMENDATION BY BSPWG*** – very similar to SGIP 1.0 but recognizes that SGIP 2.0 is not a fully federally funded organization that provides free access and participation to anyone.

(1) Openness

The work of the SGIP 2.0, including the Board of Directors and all Board and Membership working groups and committees, will be open for review by the SGIP 2.0 Membership as follows:

(a) All minutes of all meetings will be posted on the Membership portal.
(b) All documents and drafts under discussion will be posted on the Membership portal.
(c) All meetings are open to Membership attendance.

(2) Balance

The SGIP 2.0 will be organized on the principle of balancing representation across multiple industry segments related to electric energy and the technology necessary to effectively manage it. The design of the organization will enable it to:

(a) Carry out its mission effectively,
(b) Provide leadership throughout the Smart Grid Stakeholder community.
(c) In an attempt to encourage continued broad participation, any fee assessments/dues of the Membership will attempt to properly recognize the differences in the ability of various organizations to pay for membership

(3) Consensus

Consensus is a core value of the SGIP 2.0. For purposes of the SGIP 2.0, consensus means the general agreement by most of the Members but not necessarily unanimity. The process of the SGIP 2.0, including the SGIP 2.0 Board of Directors and all Board and Membership Working Groups and Committees, requires the respective Chairs to ensure consideration of all views, proposals and objections, and to endeavor to reconcile them. Where consensus is not possible, the SGIP 2.0 will strive to make decisions that are supported by the available information and to document opposing views or abstentions.

The achievement of consensus will be based on thorough examination of issues, including the discussion of dissenting opinions and the attempted resolution of disagreements. Consensus will be preferred to resolve all issues brought before the SGIP 2.0.

However, achieving the goals of SGIP 2.0 in a timely fashion will not always allow consensus to be achieved. Accordingly, when a disagreement exists that cannot be resolved; a vote will be taken to reach a timely decision. {NOTE: Please see Section iii below for the open item pertaining to SGIP 2.0 "voting" procedures.}

(4) Harmonization

The SGIP process encourages harmonization among standards. Decisions are relevant and effectively respond to regulatory and market needs, as well as technological developments to achieve essential interoperability characteristics.

For any standard gap, interested SDOs will prepare a justification to present to the SGIP relative to how the standard fits into their organization, and how they will position their work to support interoperability and integrate with other SGIP-identified standards for Smart Grid. The SGIP, or working group thereof, can then select from these offerings to identify a work project.

ii) ***ALTERNATIVES CONSIDERED BUT ARE NOT RECOMMENDED***: the main theme of discussions was a range of keeping everything completely open to the public (as in SGIP 1.0) versus more limited access and participation for various levels of membership.

iii) ***ITEMS THAT REQUIRE FURTHER DEVELOPMENT & CONSIDERATION:***

(1) Once formed, the SGIP 2.0 leadership will need to make a determination if there will be circumstances at either meetings of the Board of Directors, or Board committees, that require non-public *executive sessions* for discussion of confidential or proprietary material.

(2) Consensus based balanced voting is an important value to the culture of the SGIP 1.0 that should continue on in SGIP 2.0 in a manner that enables timely resolution of matters. There are two "on point" bodies of work that need to be examined for adaption to the new SGIP 2.0 organizational structure and its bylaws.

(a) There is currently a Governing Board "Tiger Team" looking at the issue of how to implement "balanced voting" which is intended to help ensure decisions are reached with support from the vast majority if not all membership categories. The BSPWG believes once this Tiger Team report is presented and if or when approved by the existing Governing Board, the report should be assessed for how it can be used in SGIP 2.0.

(b) There is an approved approach to voting in the absence of consensus contained in the document entitled "PMO Requirements Consensus Process Operating Procedure for PAP Working Groups". The BSPWG believes this approach to voting should be examined for adoption in SGIP 2.0 more broadly than just the PMO.

e) <u>Newly Defined "SGIP 2.0 Positioning Statement & Value Proposition"</u>

i) ***Recommendation from the BSPWG*** **–** the following is based on material prepared by the CMEWG sub-committee, and edited by BSPWG based on membership feedback

A vital SGIP role is to successfully transition from public sector funding to private sector revenue support. In order to do so, the BSPWG believes that it will be necessary to rely on membership fees for a significant portion of that support, at least initially. Accordingly, it will be essential to design a membership structure that clearly provides value to those that will be asked to join and pay annual fees to the SGIP 2.0, while at the same time protecting the principles listed above. The following describes the proposed value proposition that the BSPWG suggests SGIP 2.0 should present to the marketplace.

Our electric industry is now investing $400 billion to revamp and modernize our electric system and develop a digital security blanket to protect our nation from cyber terrorism. Federal and state governments and industry are looking to the

Smart Grid Interoperability Panel (SGIP) to identify relevant standards by which components of the system can work together - from generation, to transmission, to distribution, to the electric end user. To truly develop a seamlessly interoperating Smart Grid, the Members of the SGIP assume the ultimate responsibility to resolve standards issues and gaps between different organizations. By focusing on standards identification and their interoperability, the SGIP accelerates the digital modernization of the grid and expands dependent markets. As a Member organization, you have an equal seat and valued voice in shaping the standards that directly impact your organization's ultimate success and leads to the benefit of electricity consumers.

Though there are many informal gatherings and alliances involved in modernizing America's new energy infrastructure efforts, the SGIP is the central organization that the government and industry are looking to ensure there is a robust interoperable foundation. In addition, advancing the integration of smart grid technologies for the betterment of the electric systems is a global issue. All stakeholders who wish to play a role in building, operating or using smart grid technologies will find it important to participate.

- SGIP is the central organization that Federal and state governments and industry look to in order to identify, shape and close the gaps in standards so that a seamless interoperable Grid can be put in place.

- SGIP is cited by the Federal Energy Regulatory Commission (FERC) as the venue that all stakeholders should look to for guidance on the standards to be used in developing the modern grid, and called for broader utility and stakeholder engagement in the SGIP. It is the place with the ultimate information across all segments of the power system and will provide members the knowledge to compete effectively in the marketplace.

- SGIP is the only organization with the full spectrum of industry group members that meet together to build an official consensus around interoperable standards. All seven integrated domains of the power system---customers, markets, service providers, operations, bulk generation, transmission and distribution are represented by a total of 22 different industry segments that must work together to build a modern, efficient grid.

- SGIP works toward identifying standards for the Smart Grid through its Catalog of Standards; the definitive guide to the standards that are embraced by the overall SGIP industry in order to achieve interoperability.

- SGIP is an organization with the member capacity to build a credible peer-to-peer certification process that assures the effectiveness and capability of products and services to be truly interoperable.

- SGIP provides a major source of information which NIST may use as input for fulfilling its EISA role including input to congress, and evolution of its Smart Grid framework.

ii) ***ALTERNATIVE CONSIDERED BUT NOT RECOMMENDED –*** earlier versions contained bolder statements that some stakeholders felt were inappropriate

iii) ***ITEMS THAT REQUIRE FURTHER DEVELOPMENT AND CONSIDERATION***

(1) Extensive work is underway by a CMEWG sub- to refine the overall SGIP 2.0 value proposition and define a compelling value proposed for each of the 22 membership categories. Not only does each value proposition need to be defined/stated, the SGIP 2.0 activities need to be organized and managed in such a manner that the identified value is delivered to each of the membership categories. This work will continue throughout the membership recruitment campaign with value propositions being routinely updated based on stakeholder feedback.

(2) Independent management of SGIP 2.0 will enable it to proactively engage the stakeholder community on an ongoing basis to determine how it can best continuously meet its mission and deliver value to its members as the state of the industry evolves.

f) Legal Structure

i) ***RECOMMENDATION BY THE BSPWG***

SGIP 2.0 will be formed as a not–for-profit membership organization under Delaware law that will apply for tax exemption under IRS Code Section 501(c)(3). A 501(c)(3) organization is organized and operated for eligible tax-exempt purposes, in educational and scientific purposes. Furthermore, it may not be an *action organization* (as defined by the IRS). SGIP 2.0 intends to limit its role in the formation of any relevant legislation or regulation to informational or educational.

The key elements of an entity of the type recommended, annotated to reflect the current situation, are as follows:

(a) A short Membership Application, which serves as a data collection tool, and as a legal contract binding the applicant to pay dues and abide by the Bylaws and policies of the organization.
(b) The Certificate of Incorporation, which is a document of several pages length that includes those governance and other terms that must be contained in this (publicly available) document.
(c) The Bylaws, which in this case would represent a melding of the existing SGIP Bylaws, various statutory-compliance sections (e.g., designation of fiscal year, principal office and registered agent in the state of incorporation) and additional, beneficial terms made possible by incorporation (e.g., indemnification of officers and

directors). The Bylaws would also contain the text establishing the member classes, and the privileges and obligations of each class.

Additional documentation necessary to govern and guide the organization would traditionally be included in a variety of policies and other documents that are not legally required to exist at the time that an entity of the kind contemplated is launched. However, it would be advisable, if possible, to have these documents in place at the time that memberships are solicited. Each would be adopted, and could be amended, by the Governing Board, unless decided otherwise:

(a) Intellectual Property Rights Policy
(b) Antitrust Policy
(c) Various policies that the IRS now expects tax-exempt entities to adopt (Conflict of Interest, Whistleblower, Document Retention, Financial Oversight, Compensation Policy and Joint Venture Participation)
(d) Rules of Procedure for the Committee process

ii) ***ALTERNATIVES CONSIDERED BUT NOT RECOMMENDED***

(1) The BSPWG retained the services of an attorney with many years of experience with over a hundred standards setting organizations and industry trade groups to assist in evaluating available legal structures and selecting the one that appears to be most suited for achieving success..

(2) The BSPWG originally proposed a 501(c)(6) organization due to its compliance and filing obligations resulting in a lower administrative cost. However, some stakeholders, including NIST, felt that structure inappropriately leaves the door open for the SGIP 2.0 to lobby. Since lobbying was not part of the intention for SGIP 2.0, the change was accepted.

(3) Given the current expected scope of activity within the SGIP 2.0, a "for profit" subsidiary was deemed not necessary at this time but may be necessary in the future if conditions arise that warrant its creation. A wholly owned "for profit" taxable subsidiary may be appropriate to sell products and services created by SGIP 2.0, or enter into joint ventures with other companies for the ultimate economic benefit of the SGIP members.

The reason for creating such an additional entity would be that under IRS rules, the new activities either could not be undertaken without jeopardizing SGIP's tax exempt status (because they would be activities ordinarily undertaken for profit) and/or because they would generate too much taxable income relative to the membership-fee derived income (which needs to be over 50%). Such an organization is not

expected to be needed in the initial phase of SGIP 2.0's existence, but may be easily put in place if and when the need later arises.

iii) ***ITEMS THAT REQUIRE FURTHER DEVELOPMENT AND CONSIDERATION***

(1) A detailed review of the current SGIP 1.0 charter and bylaws will be undertaken to determine what modifications are necessary to align those documents with SGIP 2.0 as it is defined in this Business Sustainment Plan. The review will also include determination of the process to be used by SGIP 2.0 for approval of the charter and bylaws. This work shall be completed prior to year-end 2012, perhaps coincident with the December SGIP meeting.

(2) IPR issues are notoriously contentious. The existing dialogue within SGIP 1.0 should continue and be carried forward into SGIP 2.0

g) <u>Management Structure</u>

i) ***RECOMMENDATION BY THE BSPWG*** –

(1) The day-to-day leadership provided by the plenary officers, NIST and its contractor, the SGIP 1.0 Program Administrator, will be transferred in SGIP 2.0 to a full time dedicated Executive Director under the supervision and guidance of the SGIP 2.0 Board of Directors.

This person will ideally be a recognized and well-respected executive with relevant experience in the Smart Grid industry. An additional value would be someone that is currently involved with the SGIP 1.0.

The SGIP 2.0 needs a senior spokesperson to educate and inform stakeholders of the merits of interoperability across the industry, to create a compelling and complementary position (and role) for SGIP 2.0 within the industry and thus provide, and deliver, a compelling value proposition to the SGIP 2.0 membership. This spokesperson will most likely be the Executive Director. If it is the Executive Director, then additional program management is needed to help manage the day-to-day operational aspects of the SGIP 2.0.

To conduct the day-to-day activities of the SGIP 2.0, it is contemplated that the Executive Director will select and manage both a small full time staff and a larger set of outsourced resources. The decision between the amount of staff and the amount of outsourced resources will be based on several factors:

(a) the amount of revenue ,
(b) the certainty/predictability of revenue ,
(c) the base level of effort required and the variable level of effort required,
(d) a cost comparison of alternatives including the more subjective assessment of pros/cons of alternatives.

The following is a list of functional areas that should be considered as areas to be resourced, managed and coordinated (including both employees and outsourced resources) are:

(a) technical champions (see Section 2.h).(4) for a detailed explanation), and/or technical experts and/or other suitable liaisons with organizations;
(b) administrative support for Board and Membership Committees, Work Groups, Task Forces and related activities
(c) accounting/finance/legal/contracts
(d) document/artifact management
(e) membership recruitment, retention, engagement
(f) public relations, communications and education
(g) meetings/conferences logistical planning, support and execution

(2) Because SGIP 2.0 will be pursuing ambitious goals on an ambitious schedule, it will need a small but top-quality staff. Because it will not be able to provide equity incentives (as in for-profit companies), it will need to offer very competitive salary, bonus and benefits to senior staff hires in order to ensure that it can access the talent that it will need.

(3) There are third party, independent consortia/association management companies that provide a variety of out-sourced "none mission critical" services; such as: membership administration, accounting, meeting logistics, etc. One advantage to using an out-sourced management company is economies of scale whereby they can utilize their own back office staff to service many client organizations across many functions, but also have some staff dedicated just to SGIP 2.0..

ii) ALTERNATIVES CONSIDERED BUT NOT RECOMMENDED :

(1) Total outsourcing: while this remains a viable option, the Board of Directors would need to be convinced that substantial cost savings were immediately achievable to offset:
   (a) the enhanced performance that may be achieved by a focused/dedicated effort of a small staff selected with skills directly aligned with SGIP 2.0 activities, and
   (b) any conflicts, perceived or real, that may accompany an outsourced option and jeopardize the 'feel' of independence or neutrality of the operations management function.

(2) Full time staff only: this may be a viable option for the future, once a stable level of both funding and resource requirements are known, but is believed to not be a practical solution at this phase of the transition.

iii) ITEMS THAT REQUIRE FURTHER DEVELOPMENT AND CONSIDERATION

(1) A key element of the implementation plan must be a detailed assessment of having dedicated staff versus hiring of outsourced capability. It is currently suspected that a very small staff is appropriate

with a significant portion of the functions being outsourced. It is likely that assessment will include a "request for quote" process to provide appropriate information for the assessment. It is currently expected that there will likely be more than one outsourced service provider (but probably no more than one provider per functional area that is outsourced). This work, including decisions for 2013 must be completed by early 4th quarter 2012.

g) Governance Structure

i) ***RECOMMENDATION BY THE BSPWG*** –

(1) Board of Directors - Although day-to-day activities will be conducted and managed by the Executive Director, the new legal structure requires a Board of Directors that needs to perform all of the roles traditionally associated with such an organization; these roles (e.g. budget approval; resource allocation; oversight of day-to-day operations, etc.) are essentially being covered in SGIP 1.0 by a combination by NIST and/or the Program Administrator. At the same time, the current roles of the SGIP 1.0 Governing Board will also need to be performed by the SGIP 2.0 Board of Directors.

Normally, Board of Directors are sized to balance the desire for bringing a broad perspective together while maintaining the ability to efficiently reach timely decisions; a large board is not considered an asset. In order to most efficiently manage the new responsibilities that must be assumed, while preserving the broad representation of stakeholders that is an important virtue of the SGIP, a variety of smaller Board Committees will be formed from a Board of Directors modeled after the existing structure of the SGIP 1.0 Governing Board.

(a) The number of board seats will, at least initially, remain the same to help support/maintain the desired broad representation of membership

(i) Nominations are submitted from the Membership to the Nominating & Governance Committee. Nominees for the seats associated with each of the 22 membership categories must be either currently employed by a company within the respective stakeholder category, or work as a consultant with the majority of their clients being companies from that respective stakeholder category.

(ii) There is a Board seat for each of 22 membership categories: members from each category elect their Board representative, including replacements. For continuity, the existing SGIP 1.0 Governing Board members will fill the 22 seats of the SGIP 2.0 Board of Directors.

(iii) 3 "at-large" seats: elected by full Membership. For continuity, the existing SGIP 1.0 "at large" members will initially fill the 3 "at large" seats of the SGIP 2.0 Board of Directors.

(iv) 1 Executive Director

(v) Ex officio [as used in throughout this document for SGIP 2.0 purposes, *ex officio* means: a) a member of the respective board or committee by virtue of their position, and b) a full participating member of the respective committee or board except they cannot make or second a motion, and do not vote on matters but are encouraged to express their opinion]

1. Chairpersons of the following:
   a. Smart Grid Architecture Committee
   b. Smart Grid Testing and Certification Committee
   c. Smart Grid Cyber Security Committee {NOTE name change}
   d. Smart Grid Implementation Methods Committee
2. 2 government:
   a. NIST
   b. DOE

(b) Responsibilities of the Board of Directors:

(i) Guide the SGIP in executing its mission of developing standards-based interoperability technology and best practices by integrating the needs, ideas and priorities expressed by a broad Stakeholder base;

(ii) Approve work program for the SGIP, including formation of Priority Action Plans (PAPs);

(iii) Ensure SGIP effectively maintains and evolves the NIST/SGIP Smart Grid Conceptual Model to provide more detail and depth so it can serve as a reference model for implementation architectures

(iv) Engage and encourage Stakeholders to agree on a common path toward achieving standards-based interoperability using the conceptual and reference models;

(v) Engage Stakeholders to encourage growth in the use of standards-based architectures;

(vi) Provide oversight, guidance and direction to the standing Membership Committees (with the day-to-day work performed by the Committees themselves along with resources available under the management of the Executive Director):

1. Smart Grid Architecture Committee

2. Smart Grid Cyber Security Committee {NOTE name change}
3. Smart Grid Implementation Methods Committee
4. Smart Grid Testing and Certification Committee

(vii) Monitor and ensure adequate participation by the various stakeholder categories to maintain balance

(viii) Elects from the Board members:
1. Chairperson,
2. Vice-Chairperson
3. Secretary
4. Treasurer

(ix) Approves annual SGIP 2.0 business plan (including the annual budget)

(x) Review, modify if needed and approve recommendations from Board Committees as defined below

(xi) Board of Director members should sit on at least one Board Committee but not more than two.

(c) If the status of a Board Member representing one of the 22 stakeholder categories changes during their term, notice must be given and the members of that category shall determine if the person should serve out the remainder of the term or whether a special election should be held to elect a qualified replacement.

(2) Executive Committee of the Board

(a) Members are elected by the majority of the Board

(b) [5] voting seats plus Executive Director
(i) Must include the Chairperson
(ii) Eligibility:
1. Board members only
2. Other qualifications as may be determined necessary or relevant by the Board of Directors

(c) list of responsibilities
(i) Oversees development of the detailed annual SGIP 2.0 Business Plan, including:
1. Long range strategic plan,
2. [5] year financial forecast
3. 1 year detailed operating budget, and
(ii) Oversees the overall operations of SGIP 2.0

(iii) Holds an annual face-to-face meeting with the following to present the Business Plan and receive feedback:
    a. NIST (and, if still in effect, the NIST Smart Grid Federal Advisory Committee that will provide NIST with its perspective)
    b. An open meeting for each stakeholder category (or some combination thereof) led by the Executive Director and the Board Member representing that stakeholder category.
    c. Other organizations as deemed appropriate by the committee

(iv) Monitor SGIP 2.0 financial performance
(v) Executive Director performance review and compensation
(vi) Review proposals for new revenue sources
(vii) Review and approve the annual report to members
(viii) Responsible for international smart grid affiliations {formerly the International TF}

(3) Technical Committee of the Board

(a) Members are elected by the majority of the Board

(b) [12] voting seats
    (i) one must be the Vice Chairperson
    (ii) one must be the category 5 Board member- Electric Utilities, both IOU and publicly owned
    (iii) one must be the category 6 (MUNI) Board member
    (iv) one must be the category 7 (REA) Board member
    (v) one must be the Category 1 Board Member – Appliance and Consumer Electronic Providers
    (vi) one must be the Category 2 Board Member – Commercial and Industrial Equipment Manufacturers and Automation Vendors
    (vii) one must be the Category 12 Board Member – Power Equipment Manufacturers and Vendors

    (viii) Eligibility:
        1. Participating Members only
        2. Other qualifications as may be determined necessary or relevant by the Board of Directors

(c) Ex officio:
    (i) NIST representative
    (ii) DOE representative

(d) List of responsibilities:
    (i) Routinely, and in a timely manner, prioritize and allocate the use of the technical expertise funded in the annual budget based on requests from PAPs, DEWGs, etc.

(ii) Oversight of the entire PAP process managed by the Executive Director's office
(iii) Oversight of the PMO function managed by the Executive Director's office
(iv) Oversee the operation of the Membership Committees and subcommittees managed by the Executive Director's office; the slate currently consists of:
1. Smart Grid Architecture Committee
2. Smart Grid Testing and Certification Committee
3. Smart Grid Implementation Methods Committee
4. Smart Grid Cyber Security Committee {NOTE name change}
5. Electromagnetic Interoperability Issues Work Group
6. DEWGs

(4) Audit Committee of the Board

(a) Members are elected by the majority of the Board

(b) [5] voting seats – Board members only
(i) Must include the Treasurer
(ii) Eligibility: other qualifications as may be determined necessary or relevant by the Board of Directors

(c) List of responsibilities:
(i) select external auditor review
(ii) monitor financial performance
(iii) approve quarterly financial statements
(iv) review/approve annual financial report
(v) selection of D&O insurance

(5) Nominating & Governance Committee of the Board

(a) Members are elected by the majority of the Board

(b) [5] voting seats – Board Members only
(i) Eligibility: other qualifications as may be determined necessary or relevant by the Board of Directors

(c) [5] non-voting seats
(i) Participating Members only
(ii) Eligibility: other qualifications as may be determined necessary or relevant by the Board of Directors

(d) List of responsibilities:
(i) Assumes the work performed by the SGIP 1.0 Bylaws and Operating Procedures Work Group, including but not limited to the periodic review and update of the charter and bylaws
(ii) Reviews slate of nominees for various positions and develops slate of candidates to fill open positions

(iii) Assumes the work performed by the SGIP 1.0 Intellectual Property Rights Work Group

(6) Membership & Marketing Committee of the Board

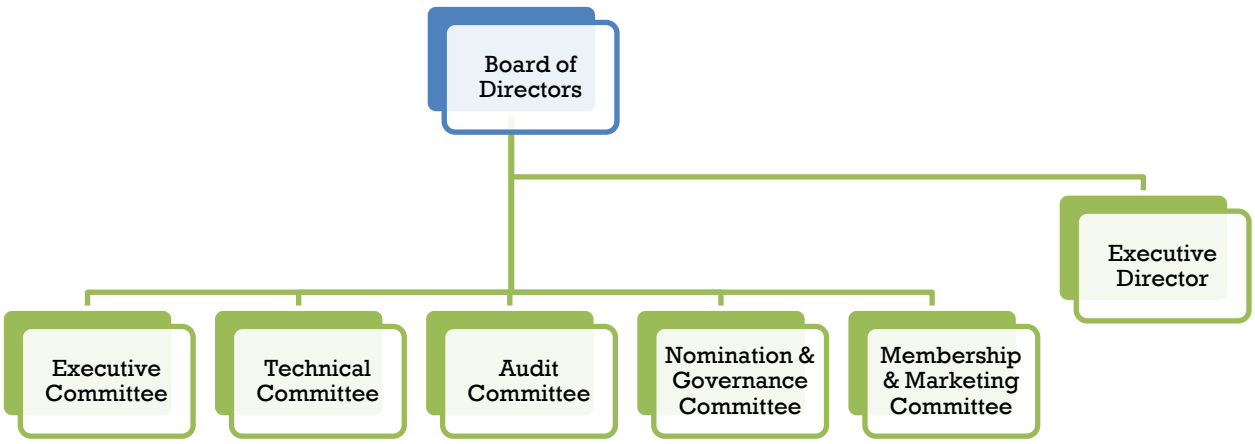
(a) Members are elected by the majority of the Board

(b) [5] voting seats – Board Members
Eligibility: other qualifications as may be determined necessary or relevant by the Board of Directors

(c) [5] non-voting seats
(i) Participating Members only
(ii) Eligibility: other qualifications as may be determined necessary or relevant by the Board of Directors

(d) List of responsibilities (assumes expanded roles of CMEWG):
(i) Oversees the membership recruitment, retention and engagement function
(ii) Oversees the marketing, communication and education function
(iii) Oversees the F2F meeting plan and execution

In summary, the Board of Directors and the Board Committees provide oversight and guidance to the organization managed by the Executive Director, and for clarity, they do NOT have day-to-day operational responsibility. Day-to-day operations are managed by the Executive Director using a combination of hired staff, outsourced resources and/or member volunteers.



ii) ***ALTERNATIVES CONSIDERED BUT NOT RECOMMENDED*** –

(1) utilize the existing structure of SGIP 1.0

(2) not all supported the identified "required" members of the Technical Committee, alternatively supported the "required" membership of manufacturing firms or IT companies.

iii) ITEMS THAT REQUIRE FURTHER DEVELOPMENT & CONSIDERATION

(1) There is currently a "Tiger Team" looking at the issue of how to implement "balanced voting" which is intended to help ensure decisions are reached with support from a broad and balanced set of the voting members for each decision. The BSPWG believes once this Tiger Team report is presented, and if or when approved by the existing Governing Board, the report should be assessed for how it can be used in SGIP 2.0.

(2) Given that the membership composition of the SGIP 2.0 may be somewhat different from SGIP 1.0, an early 2103 assessment should be taken to determine whether the changes in the membership composition warrants a change in the election cycle of members of the Board of Directors, including the possibility of a special election in 2013.

(3) The composition of the Nominations and Governance committee needs to have the appropriate level of neutrality, balance and/or skills to make final determinations of candidates for various positions.

(4) Board seat elections – while the SGIP 1.0 Governing Board members will initially assume the SGIP 2.0 Board of Director seats, a determination must be made as to how soon the new SGIP 2.0 members should be able

to elect their own representatives. This is a judgment call between providing for continuity between SGIP 1.0/SGIP 2.0 and recognition that the composition of stakeholder categories may materially change during the transition. Several options have been considered:

(a) Postpone the 4Q2012 elections until 2Q2013, which will allow the new SGIP 2.0 membership in those stakeholder categories to elect those seats. The 4Q2013 election should be held as planned. This election schedule will then have all board seats elected by the SGIP 2.0 member by year-end 2013.

(b) Hold the 4Q2012 elections as planned, but assess the SGIP 2.0 membership by stakeholder category and determine if a significant enough shift has occurred to warrant s "special" election for any particular stakeholder category.

(c) Cancel the 4Q2012 elections and re-elect the entire Board in 4Q2013.

h) <u>Membership Activity</u>

i) RECOMMENDATION BY THE BSPWG –

(1) Same as SGIP 1.0 (except for any impacts of item (4) below):

(a) Smart Grid Architecture Committee

(b) Smart Grid Testing and Certification Committee; the vice-chairperson shall be a NIST representative

(c) Smart Grid Implementation Methods Committee

(d) Smart Grid Cyber Security Committee {NOTE new name}; the chairperson shall be a NIST representative

(e) The Project Management Office ("PMO") will remain essentially unchanged but the roles need to be adjusted to align with the new organization structure of SGIP 2.0. The PMO provides day-to-day management of the PAP process and the proposals for consideration of entry into the Catalogue of Standards.

(i) The PMO will manage the following:
1. PAP processes and progress
2. CoS process and documentation
3. CoS standards review prioritization and assignments
4. Staffing recommendations to Executive Committee
5. SGIP Monthly Report

(ii) Membership composition
1. Executive Director [or his designee(s)]
2. Representative from the Board Technical Committee
3. Representative from each standing Membership Committee

4. NIST representative

(2) Domain Expert Working Groups (DEWGs) will transition to the 'industry norm' of being self-led and self-managed multi-stakeholder networking communities on specific topics – H2G, B2G, etc. The common community aspect could lead to separate meetings/events, special topic sponsorships, etc. Outputs from these communities could be position papers, standards gaps for the PMO and the Technical Committee of the Board to consider..
   (a) SGIP 1.0 had either NIST or the Program Administrator providing a technical expert to lead and/ or facilitate each DEWG
   (b) In SGIP 2.0, each DEWG will elect a Chairperson, vice-chairperson and Secretary from its Membership; these positions will lead the activities of each DEWG. The selection of well-qualified chairpersons, whose employers have committed to allow them to dedicate the time these positions will demand will ensure that the DEWGs will continue to function efficiently. NIST expects it will continue to be able to provide a similar level of direct support from NIST personnel for leadership and facilitation roles as it does in SGIP 1.0.

(3) Priority Action Plans (PAPs)
As leader of the PMO, the Executive Director (or his/her designee) shall manage PAP activity
   (a) PAP Proposal Process remains the same except:
      (i) Board of Directors replaces the Governing Board
      (ii) Technical Committee of the Board replaces the Plenary Officers
   (b) PAP Lifecycle Process remains the same except:
      (i) Board of Directors replaces the Governing Board
      (ii) Technical Committee of the Board replaces the Plenary Officers

(4) Technical Champions:
   (a) In SGIP 1.0, NIST has provided, either directly with its own staff or through its Program Administrator, numerous Technical Champions at any single point in time to accelerate SGIP activities. These individuals together with other experts who volunteered their time provided the following levels of support to SGIP activities:

      (i) Subject Matter Experts – technical writing, specification development, etc.

      (ii) Responsible for all the day-to-day activities of the PAPs and other subprojects

         1. Follow Project Management Office (PMO) processes developed for managing SGIP projects

2. Provide current status of SGIP projects on TWiki pages
3. Manage/chair technical working groups, tiger teams, task teams, and ad-hoc teams
4. Develop plans and presentation materials for meetings
5. Execute the project objectives
6. Identify, communicate, and escalate issues and concerns when necessary
7. Coordinate with chairs and NIST leads regularly

(iii) Provide technical expertise and specialized, targeted skills to support specific activities within the SGIP

(iv) Coordination and embedded resources for SSOs/SDOs on standards development efforts

(v) Develop technical reports, white papers, and reviews for standards-related efforts

(b) In SGIP 2.0,

(i) NIST expects it will continue to be able to provide a similar level of direct support from NIST personnel for leadership and facilitation roles as it does in SGIP 1.0

(ii) SGIP 2.0 will encourage its Members to provide "volunteer" Technical Champions as needed

(iii) The Board of Directors will determine the level of funding available to hire (directly or through contract) Technical Champions

(iv) Based on recommendations from the Executive Director (or the Executive Director's staff), the Technical Committee of the Board will prioritize the use of the funds available for Technical Champions based on requests from the various SGIP activities

(v) Supplemental funding for specific areas/topics -

If the Technical Committee of the Board has not provided funding for use of a Technical Champion on a specific project, a single Member (or Group of Members) may provide supplemental funding earmarked for a specific area/topic provided that ALL OTHER ASPECTS OF THE SGIP PAP PROPOSAL AND LIFECYCLE PROCESSES ARE FOLLOWED (AND NO ADVANTAGE IS GIVEN TO THOSE FUNDING THE CHAMPION).

ii) ALTERNATIVES CONSIDERED BUT NOT RECOMMENDED –

(1) A level of Technical Champion support similar to SGIP 1.0 was discussed and deemed too costly, at least until further clarity of the level of revenue is achieved.

(2) The "supplemental funding" concept is still a very open topic. The concern centered on the ability for specific members to have undue advantage in promoting activity specific to themselves. However, the requirement to adhere to the existing proposal and lifecycle processes is deemed as an adequate counterbalance.

(3) Some believe that work products from the DEWGs should be available to all members without charge.

iii) ITEMS THAT REQUIRE FURTHER DEVELOPMENT & CONSIDERATION

(1) It is strongly believed that even successful technology and standards development is enhanced by increased awareness by the technical professionals of financial and market factors that affect adoption and deployment of the eventually resultant products and services. SGIP 2.0 leadership will embark on a mission to explore various methods of increasing the level and frequency of exposing x the SGIP 2.0 to those factors, ; this work shall include methods to increase the level of engagement in SGIP 2.0 by those industry professionals, from within the membership, that are most knowledgeable of financial and market factors to help them better understand the definition of and merits of interoperability. For the avoidance of doubt, this concept does not include methods that result in any increased cost to SGIP 2.0 (such as hiring of consultants, etc.). A recommendation should be prepared and considered by September 2012 for implementation in 2013.

(2) Details for the process to accept and allocate supplemental funding needs further definition; examples are: OpenSG acceleration projects funding (like ASAP-SG) or EPRI's supplemental funding concept.

i) <u>SGIP & the Standards Organizations</u>

i) RECOMMENDATION BY THE BSPWG

(1) SGIP does not develop standards (but will continue to review and comment on standards as was done in SGIP 1.0); the work of the SGIP results in the "shaping" of standards that are created, or need to be created, by many other existing organizations.

(2) SGIP identifies important applications or activities within the Smart Grid (e.g. Electric Vehicle car charging) then conducts a detailed assessment of how that application/activity is performed, including: identifying existing standards, whether there are technological gaps that need to be filled by a new standard or an extension to an existing standard (or are

there complementary standards involved that handle requirements differently). In either situation new requirements and all relevant stakeholders are identified with the sole purpose of collaborating to ensure interoperability of all of the devices being used.

(3) In SGIP 1.0, the network of Technical Champions serves as a significant conduit of information to the standards organizations by virtue of their pre-existing relationships with those organizations. This informal, but effective, communication method has served SGIP well and is credited by NIST as being a true catalyst in getting the SGIP message across to the impacted standard setting organizations,

(4) If SGIP 2.0 does not retain the services of effective Technical Champions, then SGIP 2.0 will need to develop a method for effectively working with the affected standards organizations to ensure that the requirements developed by the SGIP are adequately addressed and implemented...

ii) ALTERNATIVES CONSIDERED BUT NOT RECOMMENDED-

(1) SGIP 2.0 should continue the SGIP 1.0 process to proactively identify personnel within its membership organizations who have a strong pre-existing relationship with one or more of the relevant standards organizations; and determine a mutually beneficial arrangement for the use of those personnel to provide the needed "linkage" between that organization and SGIP 2.0 on an "as needed" basis.

(2) Creation of formal relationships, including official Memorandums of Understanding, between SGIP and each standards organization was discussed but considered as likely to not be effective by many. However, if Technical Champions are not or cannot be funded, entering into liaison MOUs with selected SDOs may help address the coordination issue.

j) <u>SGIP and other Smart Grid related organizations/associations</u>

ITEMS THAT REQUIRE FURTHER DEVELOPMENT & CONSIDERATION

(1) The BSPWG believes an effort needs to be undertaken to "map" the primary smart grid-related organizations in an effort to understand gaps and overlaps amongst the missions of the organizations

(2) SGIP 2.0 should strive to enter into "cooperation agreements" between itself and the other organizations to try and bring clarity to how the organizations work together

k) <u>2013 Budget</u>

i) RECOMMENDATION BY THE BSPWG –

The 2013 SGIP 2.0 operating budget is very difficult to estimate at this time. Work will continue on this throughout the balance of 2012.

(1) The following table was prepared using information from the SGIP 1.0 Program Administrator. The BSPWG discussed whether tasks were:
    (a) High , medium or low priority
    (b) Whether the expected level of effort should be more, less or the same as compared to 2011
    (c) Recommended primary provider of that support
        (i) SGIP –either staff or contractors
        (ii) NIST personnel
        (iii) Member volunteers

(2) The BSPWG will continue to assess the draft budget. It should be realized that forecast expense will continue to evolve until the implementation phase of the transition is underway; however, major elements will begin to gel in the very early stages of implementation.

Major SGIP Activities Areas	2013 Priority (High, Medium, Low)	2013 Estimated level of effort relative to 2012	Recommended Support Resources (SGIP-funded, volunteer, NIST)	Estimated 2013 $$	Comments
Governing Board Activities				$ 105,000	
GB Meetings	high	same	SGIP		important
GB Working Group Support	medium	less	SGIP		CMEWG funded in line 8
GB Planning & officers' support	high	same	SGIP		need to fund leadership
Operations Activities				$ 510,500	
Executive Management - Officers				$ 350,000	
SGIP Executive Leadership: CEO type, VPs, Secretary, Treasurer	high	more	SGIP/Volunteer		need to fund leadership
Legal: contracts management, agreements	high	more	SGIP		important
Financial: funds management	high	more	SGIP		important
Travel management	low	same	Volunteer		may be source of savings at some point
Membership Services				$ 500,000	Includes $250k from CMEWG recommendation
Promotion/PR/Marketing to expand SGIP	high	more	SGIP		drives funding
Information Services: member portal, voting services, document management	high	more	SGIP		basic level of integrated service
Dues collection	high	more	SGIP		important
Event Management				$ 75,000	
Event planning and logistics	high	same	SGIP		minimum of two F2F/annually
SGIP Plenary meetings support	high	less	SGIP		minimum of two F2F/annually
Program Management				$ 3,690,000	
Program Coordination	High	Less	SGIP		
CSWG technical support	high	same	NIST/Volunteers		important functions
SGAC technical support	high	same	NIST/SGIP/Volunteers		
IMC Support	high	same	NIST/SGIP/Volunteers		
Testing & Certification Services (IPRM etc.)	high	same	NIST/SGIP/Volunteers		important for future (funding, value proposition likely)
PAPs Lifecycle support	high	less	NIST/SGIP/Volunteers		scott
Working Group Support (DEWGs etc.)	low	less	NIST/SGIP/Volunteers		reset number with SGIP 2.0, regulate the number of WGs supported going forward, consider them as "forum" - dialogue among like-minded stakeholders
International presence and coordination	high	more	NIST/Volunteers		needs attention, but not dire
AUDIT				$ 25,000	
D&O Insurance				$ 20,000	
Legal				$ 100,000	
Total				$ 5,375,500	

ii) ***ALTERNATIVES CONSIDERED BUT NOT RECOMMENDED*** – although it is acknowledged that the initial base level budget will evolve over time, some recommend that the initial target budget that is supported solely by the membership fees be in the $2-3 million range.

iii) ITEMS REQUIRING FURTHER DEVELOPMENT AND CONSIDERATION

(1) The SGIP 2.0 2013 expense budget needs further detailed "bottom-up" development. The budget also needs to be prioritized so that the SGIP 2.0 leadership can easily match revenue levels with expense levels.

l) Revenue Opportunities

i) RECOMMENDATION BY THE BSPWG –

(1) General thinking:

Several sources of revenue have been considered. Many revenue options are still under evaluation. In part due to the SGIP mission and principals identified earlier in this document, there is a strong desire by some to minimize the amount of dues charged to all members. However, dues are a common practice across the industry for organizations such as SGIP 2.0, and it is believed that membership dues are a likely source of substantial revenue in the near term.

The concept is to initially set dues at a level sufficient to cover a base level of work output by SGIP 2.0. As additional sources of revenue materialize, then

(a) first allow for an increased level of work product until it reaches a level determined acceptable by the Board;

(b) additional revenue is next applied to build a capital reserve equal to [6] months of operating expenses at an "acceptable level of operation", or some other level as determined by the Board;

(c) additional revenue can next be applied to reducing membership dues if this would be deemed to result in increased participation without financial consequence to the organization;

(d) additional revenue is next applied to an increased level of work output by SGIP; and

(e) additional revenue is next applied to reducing membership meeting fees until fees are zero (or at a level deemed satisfactory by the Board).

The following are the initial 2013 target levels for the likely major revenue sources:

(a) Membership dues: $2,000,000 to $3,000,000
(b) Government Funding: $500,000 to $1,500,000
(c) Sponsorships: $1,000,000 to $2,000,000
(d) Grants (Endowments/Foundations): $750,000 to $1,500,000

(2) A variety of funding sources are shown in the following a table. The sources have variety of different characteristics.

(a) Desirability: how attractive is this source of revenue? WIN:WIN is rated high, the more a revenue source compromises the mission & culture the lower the rating.
(i) ● - WIN:WIN – best case
(ii) ◘ - high interest
(iii) ◘ - medium interest
(iv) ○ - low interest

(b) Predictability:
(i) Near term – how well can a revenue level be forecasted for commencing Jan 2013?
(ii) Long term – how well can annual revenue be forecasted once the source has been developed and is in "maintenance mode"?
(iii) ● - best predictability
(iv) ◘ - high predictability
(v) ◘ - medium predictability
(vi) ○ - no predictability

(c) Time Frame: this represents how long it will take to commence meaningful revenue from the respective source. A high rating is soon, a low rating is measured in years
(i) ● - almost immediate
(ii) ◘ - 3 to 6 months
(iii) ◘ - 6 to 12 months
(iv) ○ - > 12 months (maybe years)

(v)

(d) Potential level: what is the potential funding level from this source:
(i) ● - $5,000,000+ per year
(ii) ◘ - measured in millions of dollars
(iii) ◘ - measured in hundreds of thousands of dollars
(iv) ○ - unknown

Revenue Type	Desirability	Predictability Near term	Predictability Long term	Time Frame	Potential Level
Membership dues	○	◘	◘	●	◘
Advertising/Sponsorships	●	◘	◘	◘	◘
Grants	●	◘	◘	◘	◘
Document Access	◘	○	◘	◘	○
Testing & Certification	◘	○	◘	○	○
Fee per device	◘	○	◘	○	●
SGIP Services	◘	○	◘	◘	◘

(3) Membership Dues

(a) It is felt that to support the culture that has been established in SGIP 1.0, namely to enable and facilitate broad participation across the entire Smart Grid Eco-system, that a tiered annual dues structure based on type and size organization, is appropriate. Furthermore, it is believed that two membership categories, with various levels of privileges is both appropriate and supported by industry practices of other similarly situated organizations

Member Category	Global Revenue	Participating	Observing
For profit	≥$1 billion	$22,500	$7,500
For profit	$≥500M to <$1B	$15,000	$5,000
For profit	$≥100M to <$500M	$12,500	$2,750
For profit	$≥ 50M to <$100M	$ 7,500	$2,500
For profit	$ ≥ 10M to <$ 50M	$ 3,000	$1,000
For profit	$≥500K to <$ 10M	$ 1,500	$ 500
For profit	<$500,000	$ 750	$ 250
Non-Profit	>$10 million	$ 3,000	$1,000
Non-Profit	≥$500K to <$10M	$ 1,500	$ 500
Non-Profit	<$500K	$ 750	$ 250
Universities	ALL	$ 3,000	$1,000
Foreign Gov't	n/a	$ 3,000	$1,000
Federal Gov't	n/a	$ 3,000	$1,000
State Gov't	n/a	$ 1,500	$ 500
Municipal Gov't	n/a	$ 750	$ 250

(b) Membership Levels – the following table shows the different levels of features and benefits in three categories:
(i) Voting & Governance
(ii) Participation
(iii) Marketing & Materials

A= Participating
B= Observing

Category	Privileges	A	B
Voting & Governance			
	Right to stand for Board of Directors	X	
	Vote for Board of Directors	X	
	Nominate Board of Directors	X	
	Observe Board of Directors Meetings	X	X

	Access to Board materials	X	X
	Number of representatives per corporate membership (but only one vote per corporate membership)	10	2
	Number of votes per membership	1	0
	Vote on technical issues in committees, work groups and the general membership	X	
	Vote on general issues presented to the membership	X	X
Participation			
	Right to stand for MEMBERSHIP committee chair election	X	
	Right to stand for MEMBERSHIP committee vice chair election	X	
	Right to stand for MEMBERSHIP committee secretary election	X	X
	Right to participate in MEMBERSHIP committee meetings	X	X
	Right to propose creation of subcommittees (e.g., DEWGs/PAPs)	X	X
	Right to stand for membership of Board Committees: Technical and Marketing & Membership, and Nominating & Governance Board Committees	X	
	Eligible for invitation to participate in Technical, Marketing & Membership, and Nominating & Governance Board Committees	X	X
	Eligible to be a full member in Board Committee working groups or task forces	X	
	Right to serve as liaison to SDOs/alliances	X	X
	SGIPortal Online Account	X	X
Marketing & Materials			
	Complimentary Membership meeting registration	X	
	Discounted Membership meeting registration	X	
	Discounted booth space at Membership meetings	X	X
	Complimentary publications	X	
	Discounted publications		X
	Receive regulatory updates	X	
	Participation in monthly analyst briefing	X	
	Relevant press release inclusion on SGIPortal	X	
	Logo inclusion on SGIPortal	X	
	Membership recognition on SGIPortal	X	X
	Use of SGIP member logo (within guidelines)	X	X
	Free inclusion in SGIPortal online solutions source (product/service listings)	X	
	Right to be billed as "Founding Member" (if joining at	X	X

	inception)		
	Receive twice monthly SGIP newsletter	X	X

(c) Implementation: (initial thoughts)

(i) The existing Governing Board member in each category should serve as a "campaign chairperson" to help each existing member in their category build a case for their respective company and seek approval of participation in SGIP 2.0. Resources from BSPWG and CME should be available to help with the "pitch" development.

(ii) A more general and broad membership campaign also needs to be designed and launched.

(4) Sponsorships/Advertising Revenue –

(a) This is a common and readily available source of revenue. Suppliers, vendors and professional service providers routinely pay to enhance the visibility of their firm to industry professionals such as those that make up the SGIP.

There are several different approaches an organization such as SGIP 2.0 can take: web site advertising (both on the public and "member only" portion of the site; conference "sponsorships", either a general event sponsorship (which would include a listing on all media used and/or for particular aspects or services for the event: "reception sponsored by: ABC company"; "internet access provided by: ABC company"; "dial-in & GoToMeeting services provide by: ABC company". The objective of this revenue stream is to directly offset certain expenses of SGIP 2.0 (examples provided above) in return for enhanced visibility of the firms to industry professionals that make up the SGIP. Care will be taken to ensure that sponsoring firms recognize that no influence on SGIP 2.0 outcomes will flow from sponsorship or advertising participation.

(b) During a defined transition phase, and until we have better visibility on everything pertaining to SGIP 2.0, an initial sale of "quarterly" sponsorships is expected, and the use of proceeds will be directed at: general purpose funds.

(c) suggested sponsorship categories:

(i) Level A: 2@$50 k/qtr = $400k/yr
(ii) Level B: 4@$25k/qtr = $400k/yr
(iii) Level C: 6@$15k/qtr = $360k/yr
(iv) Level D: 8@$10K/qtr = $320k/yr

(v) benefits in each sponsorship category

1. web site placement
2. placement on written materials

3. placement on correspondence to members
4. conference advertising
5. for clarity, sponsorships do not include ANY SGIP 2.0 membership related privileges

(d) implementation:
   (i) a detailed assessment must be undertaken to determine the benefits associated with each of the proposed sponsorship categories (using other industry conferences/organizations as a market reference)
   (ii) other actions are <TBD> as part of implementation

(5) Grants – the SGIP's work will lead to societal benefit. Many foundations and endowments provide funding to programs that result in one or more of the following: environmental benefit; energy independence; improved energy efficiency; education of consumer or regulators; etc.

(a) Sources;
   (i) endowments & foundations
   (ii) federal government

(b) use of proceeds: proceeds will likely need to be directed toward specific activities, such as:
   (i) educational material,
   (ii) funds to enable discounts for specific membership categories, such as:
      1. municipal utilities or cooperatives
      2. universities
   (iii) support the involvement of the regulators
   (iv) international expansion

(c) it is believed there are numerous potential sources of this funding; success in this category requires use of expertise with demonstrated experience:
   (i) identification of sources that match the SGIP mission or activities,
   (ii) proposal writing, and
   (iii) ability to close.

(d) Implementation:
   (i) Find a professional that has connections to the grant process of many large endowments and foundations
   (ii) <TBD>

(6) Document Access fees –many industry and professional organizations require additional fees to obtain access to various work products and/or documents. Because SGIP 1.0 was Federally funded, SGIP 1.0 provides free public access to all of the work product and documentation.

An assessment should be undertaken to determine the scope of the work product and documentation generated by SGIP 2.0 to determine the revenue stream potential from this source.

(7) Testing & Certification:

(a) General thinking:

The SGIP has developed Testing and Certification program recommendations that provide guidance and best practices for the operation of testing/verification programs. The SGIP's Interoperability Process Reference Manual (IPRM) provides this guidance. These recommendations are based on best practices as well as identified gaps in current industry programs supporting Smart Grid standards, as well as practices used in other high technology industries. The SGIP believes that implementation of these recommendations in industry test programs will result in higher quality and more robust testing programs that provide end user confidence through rigorously tested products and accelerated availability of products that have demonstrated interoperability.

A proliferation of IPRM-based programs will lead to efficiency in product testing, and resultant cost savings via the use of 3rd party independent test labs and certification bodies that have achieved accreditation through commercially available industry services as is common in many other industries. The SGIP is not planning to perform product conformance and interoperability testing itself, but will rely on a network of qualified Interoperability Testing and Certification Authorities (ITCAs). The SGIP has the opportunity to take a leadership and coordination role in oversight and direction of this network of ITCAs to help assure that their programs are meeting the expectations of utilities and end users deploying Smart Grid technologies.

A SGIP Approved ITCA Program business model is based on the fact that with broad acceptance and demand by utilities and end users for IPRM-based programs, the supporting ITCAs, labs, certifiers and others in the testing and certification ecosystem stand to derive a strong revenue stream as a result of the SGIP's efforts. The SGIP can provide a ''watchdog'' or oversight role in assuring that these benefiting organizations are indeed providing the expected services and maintaining the required qualifications to carry the designation as an ''SGIP Approved Program''. A defined set of criteria, documented assessment process, and a schedule of participation fees can be developed by the SGIP. These should be developed in close consultation with the end customers that will benefit from such a program. Depending on the ITCA/lab/certifier scope of services, participation fees can range from $5,000 to $50,000 annually. A fee schedule should be graduated so that those ITCA programs that benefit most incur a higher participation fee, while smaller, low-cost programs incur fees scaled to their programs.

SGIP SGTCC is currently working with approximately six ITCAs. Over the long term, it is likely that SGIP SGTCC may work with 20-25 ITCAs with a likely maximum number of ITCAs around 50.

(b) Use of proceeds: general purpose funds
(c) A fee of $10,000 per year could produce $60k to $500k per year.
(d) Implementation: this is a longer term potential revenue generating opportunity that should be considered by SGIP 2.0 leadership in 2013 for 2014 or beyond.

(8) Fee per device

(a) General thinking – set a fee for every device that is SGIP "Interoperability Certified" ("IC").

The concept is that devices that Smart grid devices that are IC should be more attractive to the market place, and if more attractive then these devices can attract an improved price (than without the label). The increased market attractiveness may be derived from:

(i) The label indicates the device complies with SGIP approved standards; thus reducing the need for testing and compliance by the purchaser
(ii) SGIP approved standards deliver the benefits of interoperability.

(b) Use of proceeds: general purpose funds
(c) Suggested level of fee per device: <TBD>
(d) Implementation: this is a longer term potential revenue generating opportunity that should be considered by SGIP 2.0 leadership in 2013 for 2014 or beyond.

(10) SGIP Services

(a) General thinking – the SGIP brings together a substantial amount of skilled talent within the Smart Grid industry. That talent and knowledge could possibly be harnessed into a variety of professional services (ranging from professional education to consulting services) and product offerings (subscriptions for newly formed "hot topic" reports from industry insiders to ??).
(b) Use of proceeds: general purpose funds
(c) Suggested revenue levels:
(i) Member contributors could receive credits toward purchases and/or conference attendance
(ii) <TBD>
(d) Implementation: this is a longer term potential revenue generating opportunity that should be considered by SGIP 2.0 leadership in 2013 for 2014 or beyond.

ii) ALTERNATIVES CONSIDERED BUT NOT RECOMMENDED:

(1) A three tier membership structure was originally proposed. Significant feedback was received that it was too complicated, and there was too much differentiation amongst the membership categories. This is a concept that SGIP 2.0 leadership may revisit in late 2013 for 2014.

(2) Some believe that membership dues should be substantial and not reduced in any scenario (i.e. not be reduced by additional revenue sources) and that SGIP 2.0 should strive to be a truly valuable organization that is worthy of a meaningful annual fee from its members.

(3) Some believe there is a revenue opportunity associated with SGIP 2.0 "logo items" made available thru an on-line store, such as: caps, golf shirts, coffee mugs, ties, button down shirts, etc.

(4) Some believe that attempting to create revenue streams from testing & certification activities and/or devices may have a negative effect on the pace of deployment by the industry, and may not realistically produce any meaningful revenue in the near term.

(4) Some believe that all work product from SGIP 2.0 should be free to all

(5) A surcharge on electricity, either at the retail or whole level was originally considered as a potential long term revenue source. There are examples of surcharges being used to fund technology research. However, this option was deemed unacceptable by many stakeholders; plus it is too speculative and too long term to include in the BSP.

iii) ITEMS REQUIRING FURTHER DEVELOPMENT AND CONSIDERATION

(1) Thought should be given to the creation of a membership category for individuals (as compared to entities). One idea is to limit this category to consumers (i.e. people not employed in the smart grid industry). There is a concern this category of membership could lead to a reduction in "entity memberships".

(2) Thought should be given to either allow unlimited representatives from each corporate member or determine the additional annual dues required for additional representatives from corporate members; the key point being that SGIP 2.0 should not firmly cap the number of representatives.

(3) With the move to the payment of annual membership dues, specifically since Participating Members will pay 3 times the amount of a similarly situated Observing Member, the SGIP 1.0 process used to "maintain a voting status" should be revisited to determine if any changes are warranted.

6) **SGIP 2.0 Business Sustainment Plan Implementation** –

A plan for implementing the directions set out in the BSP is being developed and will evolve consistent with SGIPGB decisions and the progress made over the course of the next few months. The main initial elements of the plan are listed below with major milestones to provide perspective to how the transition is anticipated to unfold. This is preliminary information and is expected to change.

a) Form SGIP 2.0 legal entity [501(c)(3)]

To facilitate the initial stages of implementation, an interim "plain vanilla" organization needs to be formed so that non-governmental funds can be solicited, collected and interim staff retained to assist with the transition. Due immediately after SGIP 1.0 Governing Board approval of the BSP. The initial members of the Board of Directors and officers will be the members of the BSPWG. (12 July 2012).

b) BSPWG meetings in Portland will develop revised details for the SGIP 2.0 implementation plan. (10-11 July 2012)

c) Launch Membership recruitment campaign

Target the SGIP September 14 virtual plenary meeting for a launch of the membership campaign. Begins with an "Ambassador's program" to formalize peer-to-peer membership recruitment outreach. (Due 14 Sep 2012).

d) Plan and execute transfer of SGIP 1.0 information to SGIP 2.0 information technology resources. (Due 30 Nov 2012).

e) Review and revise charter and bylaws. (Due 30 Nov 2012)

f) Undertake and complete the various "***ITEMS REQUIRING FURTHER DEVELOPMENT AND CONSIDERATION***" that are contained in this BSP.